



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

**D412-711-021**  
**Job Sheet 168957**



Part No: D412-711-021

Job Qty: 1 ea

Part Name: Vertical Reference Door Modification LH



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/27/17

Job Tracking No:

Due Date: 12/22/17

Created By: Mario Poulin

Type: SOLD

Description:

Customer: Alpine Aerotech LP - Abbotsford (CCANA05)

1640 Threshold Drive Abbotsford, BC, V2T 6H5 Canada ph:(604) 855-1148 fx:(604) 855-1507.

Note: DWG REV L IPP Rev:A 11.04.07 new issue DD verf:EC IPP Rev:B 14.04.25 ECN14-548 DD verf:JLM

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|----------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |          |
| 90    | Start up Operation | 1 Ea  | 12/22/17   | 12/22/17 | 0.00      | 0.00    | Start Up Container    |           |          |
| 120   | Packaging          | 1 pcs | 12/22/17   | 12/22/17 | 0.00      | 0.00    | Packaging1            |           |          |
| 130   | QC                 | 1 pcs | 12/22/17   | 12/22/17 | 0.00      | 0.00    | QC4                   |           |          |
| 140   | DC                 | 1 pcs | 12/22/17   | 12/22/17 | 0.00      | 0.00    | DC                    |           |          |
| 150   | Packaging          | 1 pcs | 12/22/17   | 12/22/17 | 0.00      | 0.00    | Packaging3            |           |          |
| 160   | QC21-FG            | 1 Ea  | 12/22/17   | 12/22/17 | 0.00      | 0.00    | QC21                  |           |          |

Part Op 140 - Photocopy bluefiles and create labels per PPP D412-711-021 CHG002.

Descriptions: 150 - Identify and pack for shipping as per PPP D412-711-021 Location: Eg PPP rev: sold

### Job Allocations

| Operation             | Component Part       | Required | Inventory | Allocated | Std Qty |
|-----------------------|----------------------|----------|-----------|-----------|---------|
| 90-Start up Operation | AN3-12A 5020642      | 1 ✓      | 114       | 0         | 0       |
|                       | AN3-3A 5020634       | 22 ✓     | 127       | 0         | 0       |
|                       | AN3-4A 5020626       | 20 ✓     | 256       | 0         | 0       |
|                       | AN3-6A 8020642       | 26 ✓     | 312       | 0         | 0       |
|                       | CR3242-4-2 5020615   | 34 ✓     | 33        | 0         | 0       |
|                       | D3802-1-120 5016649  | 1 ✓      | 1         | 0         | 0       |
|                       | D412-711-101 5020613 | 1 ✓      | 3         | 0         | 0       |
|                       | D412-761-043 5020612 | 1 ✓      | 5         | 0         | 0       |
|                       | D4165-1 5020609      | 1 ✓      | 3         | 0         | 0       |
|                       | D4165-11 5020596     | 1 ✓      | 2         | 0         | 0       |
|                       | D4165-3 5020579      | 1 ✓      | 2         | 0         | 0       |
|                       | D4165-5 5020574      | 1 ✓      | 1         | 0         | 0       |
|                       | D4165-7 5020522      | 1 ✓      | 3         | 0         | 0       |
|                       | D4165-9 5020510      | 1 ✓      | 1         | 0         | 0       |
|                       | D4207-1 5020569      | 1 ✓      | 2         | 0         | 0       |
|                       | D4207-3 5020560      | 1 ✓      | 2         | 0         | 0       |
|                       | D4269-1 5020555      | 1 ✓      | 2         | 0         | 0       |
|                       | D4269-3 5020553      | 1 ✓      | 2         | 0         | 0       |
|                       | D4269-5 5020551      | 1 ✓      | 3         | 0         | 0       |
|                       | D4269-7 5020546      | 1 ✓      | 2         | 0         | 0       |
|                       | D4324-011-50         | 1 ✓      | 0         | 0         | 0       |
|                       | D4327-1 5020544      | 1 ✓      | 1         | 0         | 0       |
|                       | D4327-3 5020544      | 1 ✓      | 0         | 0         | 0       |
|                       | D4385-1 5020492      | 2 ✓      | 7         | 0         | 0       |

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                               |                                        |                                     |                                              |                                      |  |
|--------------------------------------------------------------|-----------------------------------------------|----------------------------------------|-------------------------------------|----------------------------------------------|--------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b>                            |                                        | <b>AGAINST DEPARTMENT/PROCESS</b>   |                                              |                                      |  |
|                                                              | Rework <input type="checkbox"/>               | Skid-tube <input type="checkbox"/>     | Cross tube <input type="checkbox"/> | Water Jet <input type="checkbox"/>           | Engineering <input type="checkbox"/> |  |
|                                                              | Scrap <input type="checkbox"/>                | Machining <input type="checkbox"/>     | Small Fab <input type="checkbox"/>  | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input type="checkbox"/>     |  |
|                                                              | Use-as-is <input type="checkbox"/>            | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/>  | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>       |  |
|                                                              | Suspected Unapproved <input type="checkbox"/> | Large Fab <input type="checkbox"/>     | Composite <input type="checkbox"/>  | Supplier <input type="checkbox"/>            |                                      |  |

|        |         |                 |                       |
|--------|---------|-----------------|-----------------------|
| Date : | Step #: | QTY Effective : | MRB (QSI042) Approval |
|--------|---------|-----------------|-----------------------|

Description Work Order

**S026245****Vertical Reference Door Modification LH****Dart Aerospace Ltd.**
 1270 Aberdeen Street  
 Hawkesbury, ON K64 1K7  
 CANADA  
 TEL.: 1 613 632-5200  
 Email: sales@dartaero.com  
 www.dartaerospace.com

Completed By

Lead hand / Supervisor  
Approval VerificationQC / QA Coordinator  
Approval

**PART NO: D412-711-021**

**Revision:**

**Operation: Start up Operation**

**Change No: CHG002**

**Mfg Date: 12/21/17**  
**Job No: 168957**

|                                             |                                                |  |  |
|---------------------------------------------|------------------------------------------------|--|--|
| <b>Root Cause</b>                           |                                                |  |  |
| Environment <input type="checkbox"/>        | No Re-verification <input type="checkbox"/>    |  |  |
| Design <input type="checkbox"/>             | Operator <input type="checkbox"/>              |  |  |
| Doc/Data <input type="checkbox"/>           | Offset/Setup <input type="checkbox"/>          |  |  |
| Equip/Tooling <input type="checkbox"/>      | Supplier <input type="checkbox"/>              |  |  |
| Handling/Pre <input type="checkbox"/>       | Training <input type="checkbox"/>              |  |  |
| Material <input type="checkbox"/>           | Use for Testing <input type="checkbox"/>       |  |  |
| Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/>      |  |  |
| Tribal Knowledge <input type="checkbox"/>   | Rushing <input type="checkbox"/>               |  |  |
| LOA <input type="checkbox"/>                | Product Improvement <input type="checkbox"/>   |  |  |
| Substation <input type="checkbox"/>         | Process Improvement <input type="checkbox"/>   |  |  |
| Past Expiry Date <input type="checkbox"/>   | Manufacturing Process <input type="checkbox"/> |  |  |
| Misidentified <input type="checkbox"/>      | Past Due <input type="checkbox"/>              |  |  |

|                                             |                                                          |                                                |
|---------------------------------------------|----------------------------------------------------------|------------------------------------------------|
| Crushing <input type="checkbox"/>           | Countersink <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>       |
| Heat Treat <input type="checkbox"/>         | Cut Too Short <input type="checkbox"/>                   | Off-set <input type="checkbox"/>               |
| Wave/Twist in Tube <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Mislabeled <input type="checkbox"/>            |
| Marks/Chatter <input type="checkbox"/>      | Drill Holes <input type="checkbox"/>                     | Fit/Function <input type="checkbox"/>          |
|                                             |                                                          | Misaligned/off center <input type="checkbox"/> |

|                                               |
|-----------------------------------------------|
| <input type="checkbox"/> Positioned Wrong     |
| <input type="checkbox"/> Outside Dimensions   |
| <input type="checkbox"/> Over/Under tolerance |
| <input type="checkbox"/> Part Incorrect       |
| <input type="checkbox"/> Part Lost/Missing    |
| <input type="checkbox"/> Part Moved           |
| <input type="checkbox"/> Drawing              |
| <input type="checkbox"/> Finish               |
| <input type="checkbox"/> Misread              |
| <input type="checkbox"/> Turning Sequence     |

OTHER : \_\_\_\_\_

|               |              |       |   |   |
|---------------|--------------|-------|---|---|
| MS20426AD3-3  | 502047435 ✓  | 810   | 0 | 0 |
| MS20426AD4-3  | 5020456140 ✓ | 3,600 | 0 | 0 |
| MS20470AD3-3  | 502043425 ✓  | 5,839 | 0 | 0 |
| MS20470AD4-3  | 502043590 ✓  | 1,298 | 0 | 0 |
| MS21042L3     | 502042324 ✓  | 907   | 0 | 0 |
| MS21059L3     | 50204184 ✓   | 72    | 0 | 0 |
| MS21069L08    | 50204168 ✓   | 394   | 0 | 0 |
| MS21069L3     | 502041234 ✓  | 94    | 0 | 0 |
| MS21071L08    | 50204031 ✓   | 146   | 0 | 0 |
| MS21071L3     | 50203983 ✓   | 37    | 0 | 0 |
| NAS1149F0332P | 502039092 ✓  | 2,453 | 0 | 0 |

### Part Specifications

Specifications could not be found.

Plex 11/27/17 3:35 PM dart.poulin.mario



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Completed By                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Misabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

APPROVED

DATE 17.01.20

|            |     |
|------------|-----|
| DESIGN     | RF  |
| DRAWN      | MB  |
| CHECKED    | ML  |
| MFG. APPR. | N/A |
| APPROVED   | HS  |
| DE APPR.   | DS  |

|                                                                                                                                                                                                                                |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| DART AEROSPACE LTD                                                                                                                                                                                                             |                             |
| HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                    |                             |
| DRAWING NO.                                                                                                                                                                                                                    | D412-711                    |
| REV. L                                                                                                                                                                                                                         | SHEET 2 OF 6                |
| SCALE                                                                                                                                                                                                                          | VERTICAL REFERENCE DOOR NTS |
| COPYRIGHT © 2004 BY DART AEROSPACE LTD                                                                                                                                                                                         |                             |
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\*\* PART OF EA20469-10 REAR RIB ASSEMBLY  
\*\* PART OF EA20469-12 FWD RIB ASSEMBLY

| QTY | -011 | -013 | -015 | -017 | -019 | -021 | -041 | -043 | PART NUMBER  | DESCRIPTION                                                       |
|-----|------|------|------|------|------|------|------|------|--------------|-------------------------------------------------------------------|
|     | X    |      |      |      |      |      |      |      | D412-711-011 | VERTICAL REFERENCE DOOR<br>INSTALLATION, 212/412                  |
|     |      | X    |      |      |      |      |      |      | D205-711-013 | VERTICAL REFERENCE DOOR<br>INSTALLATION, 205/210                  |
|     |      |      | X    |      |      |      |      |      | D204-711-015 | VERTICAL REFERENCE DOOR<br>INSTALLATION, 204                      |
|     |      |      |      | X    |      |      |      |      | D214-711-017 | VERTICAL REFERENCE DOOR<br>INSTALLATION, 214                      |
|     |      |      | X    |      |      |      |      |      | D212-711-019 | VERTICAL REFERENCE DOOR<br>EAGLE SINGLE                           |
|     |      |      |      |      | X    |      |      |      | D412-711-021 | VERTICAL REFERENCE DOOR KIT                                       |
|     |      |      |      |      |      |      | X    |      | D412-711-041 | VERTICAL REFERENCE DOOR ASSEMBLY                                  |
|     |      |      |      |      |      |      |      | X    | D412-711-043 | SNAP VENT KIT                                                     |
|     |      |      |      |      |      |      |      |      | D412-761-043 | MODIFIED LATCH MECHANISM KIT, LH<br>(REPLACES EA20469-23/-24/-25) |
|     |      |      |      |      |      |      |      |      | D412-711-101 | REPLACEMENT WINDOW (REPLACES EAGLE<br>P/N EB212-100L / EA20469-3) |
|     |      |      |      |      |      |      |      |      | D3802-1-120  | RUBBER STRIP                                                      |
|     |      |      |      |      |      |      |      | 2    | D3932-1      | SNAP VENT                                                         |
|     |      |      |      |      |      |      |      |      | D4165-1      | DOUBLER                                                           |
|     |      |      |      |      |      |      |      |      | D4165-3      | DOOR INNER SKIN (REPLACES EA20469-18)                             |
|     |      |      |      |      |      |      |      |      | * D4165-5    | AFT RIB (REPLACES EA20469-34)                                     |
|     |      |      |      |      |      |      |      |      | ** D4165-7   | FWD RIB (REPLACES EA20469-31)                                     |
|     |      |      |      |      |      |      |      |      | D4165-9      | ANGLE (REPLACES EA20469-17)                                       |
|     |      |      |      |      |      |      |      |      | D4165-11     | DOOR COVER PANEL (REPLACES EA20469-21)                            |
|     |      |      |      |      |      |      |      |      | D4207-1      | WINDOW RETAINER (REPLACES EA20469-14)                             |
|     |      |      |      |      |      |      |      |      | D4207-3      | WINDOW (REPLACES EA20469-13)                                      |
|     |      |      |      |      |      |      |      |      | * D4269-1    | ANGLE (REPLACES EA20469-33)                                       |
|     |      |      |      |      |      |      |      |      | ** D4269-3   | ANGLE (REPLACES EA20469-30)                                       |
|     |      |      |      |      |      |      |      |      | ** D4269-5   | ANGLE (REPLACES EA20469-29)                                       |
|     |      |      |      |      |      |      |      |      | * D4269-7    | ANGLE (REPLACES EA20469-32)                                       |
|     |      |      |      |      |      |      |      |      | D4324-011    | ARM REST ASSEMBLY (REPLACES EA20469-16)                           |
|     |      |      |      |      |      |      |      |      | D4327-1      | ANGLE (REPLACES EA20469-11)                                       |
|     |      |      |      |      |      |      |      |      | D4327-3      | ANGLE (REPLACES EA20469-07)                                       |
|     |      |      |      |      |      |      |      |      | D4385-1      | PLACARD                                                           |

REFERENCE ONLY



## DATE \_\_\_\_\_

|                                    |                    |                                |
|------------------------------------|--------------------|--------------------------------|
| <b>DART AEROSPACE LTD</b>          | <b>DRAWING NO.</b> | <b>REV. L</b>                  |
| <b>HAWKESBURY, ONTARIO, CANADA</b> | <b>D412-711</b>    | <b>SHEET 3 OF 6</b>            |
|                                    | <b>TITLE</b>       | <b>SCALE</b>                   |
|                                    |                    | <b>VERTICAL REFERENCE DOOR</b> |
|                                    |                    | <b>NTS</b>                     |

**HAWKESBURY, ONTARIO, CANADA**

DRAWING NO. D412-711

REV. 1  
SHEET 3 OF 6

SCALE

## VERTICAL REFERENCE DOOR NTS

**NOTES**

**1) WIRING HARNESS:**

- For Bell 204/205/210 Wiring Harnesses, use drawing D2046904.
- For Bell 212 Wiring Harnesses, use drawing D2046903\*.
- For Bell 214 Wiring Harnesses, use drawing D214-761-511.
- For Bell 412 Wiring Harnesses, use drawing D412-711-901.
- For Bell 212 modified per SH07-28/SR02831NY use D212-761-224 or D212-761-225 depending on aircraft s/n.
- \* Despite the note on the drawing, D2046903 is applicable to all 212 aircraft serial numbers

Wiring Harnesses will vary depending on aircraft s/n.

**2) D412-711-101 REPLACEMENT WINDOW:**

To increase downward viewing clarity, it is acceptable to cut a small section from the replacement window on its downward side per Figure 1 of this document. The cutout can be a maximum of 9.00" wide x 17.00" long (229mm x 432mm), measured along the profile of the replacement window. The corners of the cutout must have a minimum radius of 2" (50mm). The cutout should be located at least 1.0" (25mm) from the flange. The actual shape of the cutout can vary as desired, as long as the overall dimensions are within the specified limits. See Figure 1 for reference.

**3) D412-711-043 SNAP VENT KIT:**

It is acceptable to install a total of up to 2X D3932-1 Snap Vents (available from Dart) onto the D412-711-101 Replacement Window to provide ventilation into the cabin. Refer to Figure 1 for acceptable locations and size of cutouts.

**4) It is acceptable to use MS21042L3 nuts to install the window in lieu of anchor nuts shown on D2046901.**

(A) IF CUSTOMER PREFERS TO SUPPLY AND MODIFY THEIR OWN DOOR, D412-711-021 SHOULD BE SUPPLIED IN LIEU OF D412-711-041  
(B) INSTRUMENT PANEL INCLUDED WITH HARNESS ABOVE

| QTY | -011 | QTY | -013 | QTY | -015 | QTY | -017 | QTY | -019 | QTY | -021 | QTY | -041 | PART NUMBER     | DESCRIPTION                            |
|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----------------|----------------------------------------|
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | AN3-3A          | BOLT                                   |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | AN3-4A          | BOLT                                   |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | AN3-6A          | BOLT                                   |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | AN3-12A         | BOLT                                   |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | NAS1149F0332P   | WASHER (OR AN960-10L)                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | CR3242-4-2      | RIVET                                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS20426AD3-3    | RIVET                                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS20426AD4-3    | RIVET                                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS20470AD3-3    | RIVET                                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS20470AD4-3    | RIVET                                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS21042L3       | NUT                                    |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS21059L3       | NUT PLATE                              |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS21069L3       | NUT PLATE                              |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS21069L08      | NUT PLATE                              |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS21071L3       | NUT PLATE                              |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | MS21071L08      | NUT PLATE                              |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | 204-030-853-125 | LH COPILOT DOOR (204-030-853-137/-155) |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D412-711-111    | WIRING HARNESS, 212/412                |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D4268-043       | INSTRUMENT PANEL, 212/412              |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D205-711-113    | WIRING HARNESS, 205                    |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D4268-041       | INSTRUMENT PANEL, 205                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D204-711-115    | WIRING HARNESS, 204                    |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | EA20469-15-204  | INSTRUMENT PANEL, 204                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D214-711-117    | WIRING HARNESS, 214                    |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | EA20469-15-214  | INSTRUMENT PANEL, 214                  |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D212-711-119    | WIRING HARNESS, EAGLE SINGLE           |
|     |      |     |      |     |      |     |      |     |      |     |      |     |      | D4268-047       | INSTRUMENT PANEL, EAGLE SINGLE         |

PAGE 1 OF 1

**Description:** VERTICAL REFERENCE DOOR MODIFICATION

H:\Forms\Engineer\Approved Eng Online\CHGREC revB





Dart Aerospace Ltd.  
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Hawkesbury, ON  
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Canada

Tel (613) 632-5200

**D2530**  
**Job Sheet 169217**



Part No: D2530

Job Qty: 8 ea

Part Name: Handle Weldment



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 12/5/17

Job Tracking No:

Due Date: 12/12/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV B IPP Rev:E Removed Purchasing 05-11-07 JLM IPP Rev:F 11.01.07 chg qc 5 to 6 DD verf:EC

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  | Workcenter/Supplier |                                 | Sign-off          |
|-------|--------------------|-------|------------|----------|-----------|---------------------|---------------------------------|-------------------|
|       |                    |       |            |          | Setup hrs | Run Hrs             | Workcenter / Supplier Lead Time |                   |
| 90    | Start up Operation | 8 Ea  |            | 12/11/17 | 0.00      | 0.00                | Start Up Small Fab              |                   |
| 100   | Small Fab          | 8 pcs |            | 12/11/17 | 0.12      | 1.55                | Small Fab                       | FF DAS            |
| 110   | QC                 | 8 pcs |            | 12/11/17 | 0.00      | 0.00                | QC5                             | 38                |
| 120   | Large Fab          | 8 pcs |            | 12/11/17 | 0.00      | 3.20                | Large Fab 1                     | DYC 17/12/14 9-88 |
| 130   | QC                 | 8 pcs |            | 12/11/17 | 0.00      | 0.00                | QC9                             | EL                |
| 140   | QC                 | 8 pcs |            | 12/11/17 | 0.00      | 0.00                | QC5                             | EL                |
| 150   | Powdercoat         | 8 pcs |            | 12/12/17 | 0.00      | 0.30                | Powdercoat4                     | BR 17/12/17       |
| 160   | QC                 | 8 pcs |            | 12/12/17 | 0.00      | 0.00                | QC3                             | AT 17/12/17       |
| 170   | Packaging          | 8 pcs |            | 12/12/17 | 0.00      | 0.00                | Packaging3                      | AT 17/12/17       |
| 180   | QC21-SA            | 8 Ea  |            | 12/12/17 | 0.00      | 0.00                | QC21                            |                   |

Part Op 100 - 1-Cut to length as per Dwg D2530

Descriptions: 120 - 1-Weld as per Dwg D2530 and QSI 004 using Welding Jig DT8301

150 - START TIME: 10:55 FINISH TIME: 11:25 ON T3200 M135418

### Job Allocations

| Operation             | Component Part   | Required | Inventory | Allocated | Std Qty |
|-----------------------|------------------|----------|-----------|-----------|---------|
| 90-Start up Operation | M304TR0.750W.049 | 23       | 218       | 0         | 0       |
| 120-Large Fab         | D2534            | 16       | 32        | 0         | 0       |

### Part Specifications

Specifications could not be found.

D2530 — SO 17137

Plex 12/5/17 9:48 AM dart.poulin.mario



**DART**  
AEROSPACE  
**S018073**

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**Handle Weldment**

**PART NO: D2530**

**Revision:**

**Operation: Start up Operation**

**Change No:**

**Mfg Date: 12/06/17**

**Job No: 169217**